

## New Host Records and Notes on the Dipterous Family Aulacigastridae<sup>1</sup>

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The family Aulacigastridae (Diptera) is represented in North America by one described species, *Aulacigaster leucopeza* (Meigen). Larvae of this fly live in the sap exuded from tree wounds (Malloch and McAtee 1924). Robinson (1953) described the immature stages of *A. leucopeza* and presented biological notes on its life history. She found adults and larvae occurring on elm and chestnut in Sheffield, England.

In the Nearctic region few host records exist for this unusual fly. Christianson and Ryckman (1955) reared adults from larvae they collected on a cottonwood slime flux in California. They also reported U.S. National Museum records of adults on ponderosa pine in New Mexico, elm in Idaho, and oak in California. Teskey (1976) reported Canadian National Collection records of larvae from mulberry, and adults on elm, poplar, and Manitoba maple. Cole (1969) recorded larvae and adults from California but made no mention of the host trees.

During the spring and summer of 1977 we took numerous larvae and adults throughout northeastern Oregon. Adults were collected, and larvae reared, from seeps on wounded Douglas fir [*Pseudotsuga menziesii* (Mirbel) Franco] trees. Adults were also taken at wounds on ponderosa pine (*Pinus ponderosa* Douglas), mountain alder [*Alnus incana* (L.) Moench] and a species of maple (*Acer* sp.).

Adults were most often encountered in early June on or near the sap flows of wounded trees. They were easily disturbed and usually flew away when we approached the infected trees. The best way to collect them was to wait at the tree for their return, and then slowly aspirate them from the seep area. As the season continued fewer and fewer adults were taken at the seeps. The fact that adults were most prevalent in early June correlates well with Robinson's hypothesis (1953) that adults meet early in the season to mate and lay eggs at the seep. We also found a number of mating pairs at this time.

Larvae were taken throughout the season (June to September) at numerous Douglas fir seeps. Those larvae brought into the laboratory to rear eventually eclosed by the end of August or early September. Thus it is probable that eggs are laid in early June, the larvae remain in the seeps throughout the summer, and pupation occurs in late

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August or early September. The seeps tend to dry-up as the season comes to an end, and we feel it is probably this change in the larval habitat which is a factor in initiating pupation.

It is not known how the fly overwinters. The data seem to indicate that they pass winter as pupae or pharate adults still in the pupal case. We collected no adults at the end of the season, thus we feel it is doubtful that they pass winter in this stage. However, they do occur early the following spring and this supports the contention that they pass the winter as pupae or pharate adults. In addition, upon examination of a seep in mid-September we found a fully formed adult still in the pupal case. It was impossible to tell if it was going to pass the winter as a pharate adult or if it was going to emerge before the end of the season. As the season was drawing to an end, and nights were growing exceedingly cold, it is doubtful that this adult was going to emerge that season. The larvae that we reared to the adult stage in the laboratory were probably affected by removing them from the drying seep and placing them in more favorable conditions, and thereby causing an early eclosion.

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